



NOTES:

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KEY:

- AREA OF FLOOD ZONE 1
FFL'S TO BE MINIMUM OF 300mm ABOVE EXISTING GROUND LEVELS
- AREA OF FLOOD ZONE 3 (NODES 4 & 5)
FFL'S TO BE A MINIMUM OF 143.345m AOD
- AREA OF FLOOD ZONE 3 (NODE 6)
FFL'S TO BE A MINIMUM OF (THE HIGHER OF) 141.880m AOD OR 300mm ABOVE EXISTING GROUND LEVELS
- AREA OF FLOOD ZONE 3 (NODE 7)
FFL'S TO BE A MINIMUM OF (THE HIGHER OF) 140.155m AOD OR 300mm ABOVE EXISTING GROUND LEVELS
- EXCEEDANCE ROUTES – MUST BE IMPLEMENTED AS SHOWN TO AVOID FLOOD RISK UPSTREAM AND DOWNSTREAM
- FFL 0.00
MINIMUM FINISH FLOOR LEVEL
- PROPOSED PLOTS WITHIN FLOOD ZONE 1 BUT NOT SET A MINIMUM OF 300mm ABOVE EXISTING GROUND LEVELS AS THE LEVELS PROPOSED ARE STILL HIGHER THAN THE 141.880 MINIMUM LEVEL REQUIRED FOR THE ADJACENT AREA OF FLOOD ZONE 3 (NODE 6)

ESTIMATED
GROUP LOCATION

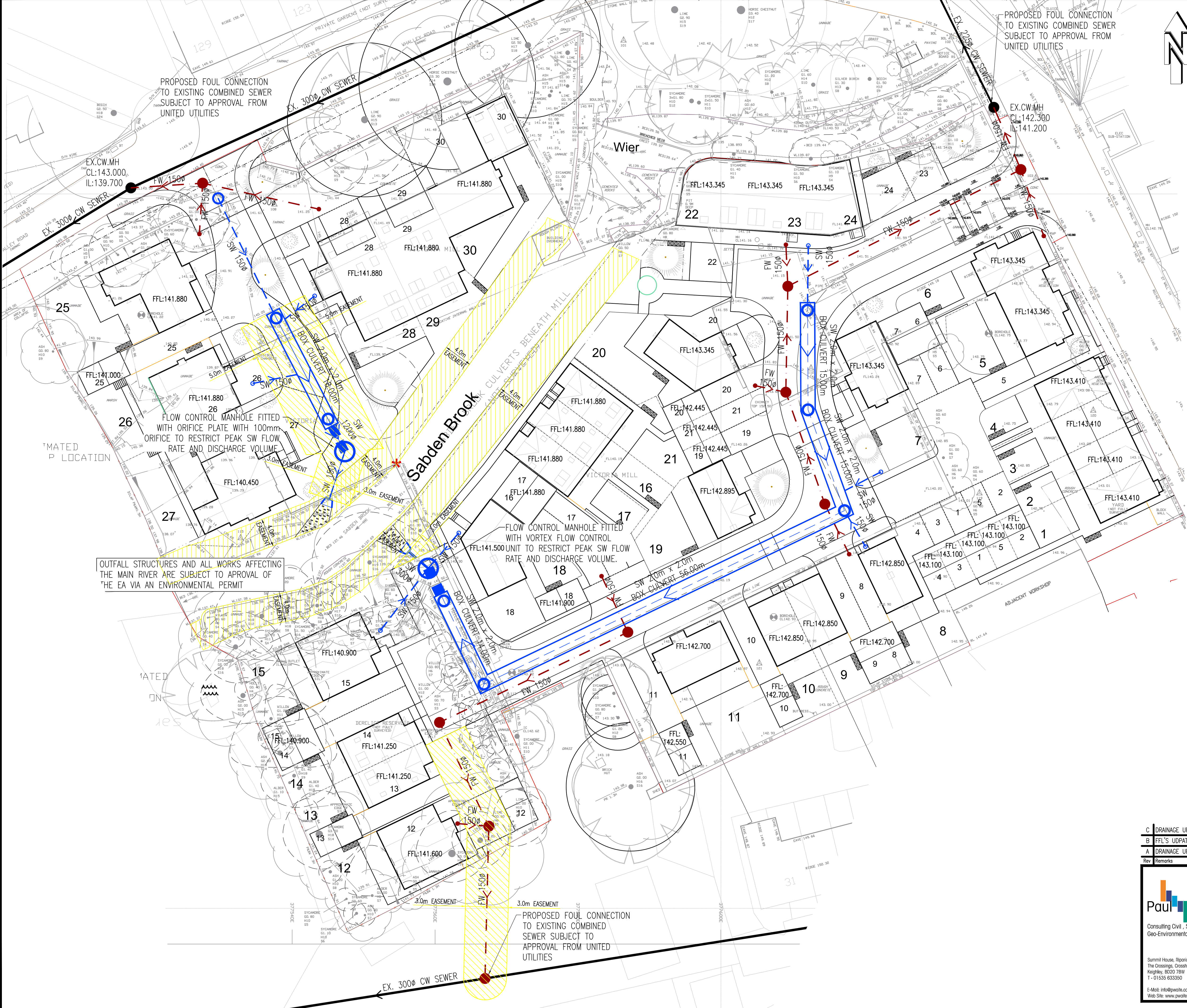
ESTIMATED
TREE
LOCATION

ORDINATE SCHEDULE

NORTHING	LEVEL	DESCRIPTION
437321.531	142.638	HILTI NAIL IN PEG
437328.006	142.997	HILTI NAIL IN TARMAC
437302.243	142.419	HILTI NAIL IN TARMAC
437316.876	142.446	PK NAIL IN TARMAC
437334.751	142.630	PK NAIL IN TARMAC
437387.711	144.003	PK NAIL IN TARMAC
437299.472	142.876	PK NAIL IN TARMAC
437298.596	141.635	HILTI NAIL IN CONCRETE
437314.971	141.343	HILTI NAIL IN CONCRETE
437299.432	141.830	MAG NAIL IN SETTS
437289.698	141.202	MAG NAIL IN CONCRETE
437275.640	142.502	HILTI NAIL IN PEG
437289.787	140.219	PIPE NAIL IN CONCRETE
437299.034	140.788	HILTI NAIL IN PEG
437251.880	139.749	HILTI NAIL IN PEG
437291.305	141.083	HILTI NAIL IN PEG
437292.881	142.790	HILTI NAIL IN TARMAC
437251.292	143.598	HILTI NAIL IN TARMAC
437298.153	142.955	HILTI NAIL IN PEG
437269.728	143.117	HILTI NAIL IN PEG
437234.341	142.974	TEMPORARY STATION

C	FFL STRATEGY FOR PLOTS 1 TO 5 & 8 AMENDED AND KEY UPDATED TO SUIT.	20/07/18	LS	LS
B	FFL STRATEGY FOR PLOTS 1 TO 5 & 8 AMENDED AND KEY UPDATED TO SUIT.	12/04/18	LMc	LMc
A	UPDATED TO SUIT REVISED SITE LAYOUT.	01/03/18	LMc	LMc
Rev	Remarks	Date	By	Check

 Consulting Civil, Structural & Geo-Environmental Engineers Summit House, Riparian Way, The Crossings, Crosshills, Knaresborough, BD20 7BW T: 01535 633350 E-Mail: info@pwa.co.uk Web Site: www.pwa.co.uk	Client: PROPOSED RESIDENTIAL DEVELOPMENT FORMER VICTORIA MILL SABDEN			
	Drawing: PROPOSED FINISH FLOOR LEVEL STRATEGY PLAN			
	Date: 13/10/17	IC LMc	Checked By: LMc	17140-C-SK.03
	Status: PRELIMINARY	Scale: 1:250	Size: A1	Drawing Number: C



- KEY**
- EXISTING COMBINED DRAINAGE
 - PROPOSED SURFACE WATER DRAINAGE
 - PROPOSED FOUL DRAINAGE
 - EASEMENT

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EXISTING TOTAL GREENFIELD RUNOFF RATES	
1 IN 1 YEAR FLOW:	5.8 l/s
1 IN 30 YEAR FLOW:	11.3 l/s
1 IN 100 YEAR FLOW:	13.9 l/s
1 IN 100 YEAR 6 HOUR VOLUME:	297.509m³
PROPOSED NORTH SYSTEM	
1 IN 1 YEAR FLOW:	2.3 l/s
1 IN 30 YEAR FLOW:	3.7 l/s
1 IN 100 YEAR FLOW:	5.8 l/s
1 IN 100 YEAR 6 HOUR + 40%CC VOLUME:	155.586m³
PROPOSED SOUTH SYSTEM	
1 IN 1 YEAR FLOW:	2.3 l/s
1 IN 30 YEAR FLOW:	3.2 l/s
1 IN 100 YEAR FLOW:	4.7 l/s
1 IN 100 YEAR 6 HOUR + 40%CC VOLUME:	141.465m³
PROPOSED SITE TOTAL	
1 IN 1 YEAR FLOW:	4.8 l/s
1 IN 30 YEAR FLOW:	6.9 l/s
1 IN 100 YEAR FLOW:	10.5 l/s
1 IN 100 YEAR 6 HOUR + 40%CC VOLUME:	297.051m³

C	DRAINAGE UPDATED TO SUIT GREENFIELD RUNOFF RATES.	20/07/18	LS	LS
B	FFL'S UPDATED FOR PLOTS 1 TO 5 & 8 TO 11.	12/04/18	LMc	LMc
A	DRAINAGE UPDATED TO SUIT REVISED SITE LAYOUT.	01/03/18	LMc	LMc
Rev	Remarks	Date	By	Check

Paul Waite Associates
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Client: SKIPTON PROPERTIES

Proposed Residential Development
Former Victoria Mill
Sabden

Drawing: PROPOSED DRAINAGE STRATEGY

Date: 13/10/17	Drawn By: IC	Lmc	Checked By: 17140-C-SK.04	C
Status: PRELIMINARY	Scale: 1:250	Size: A1	Drawing Number:	Rev:

Paul Waite Associates		Page 1
Summit House Riparian Way Keighley BD20 7BW	17140-CC-02 Prop. Discharge Rate - North Former Victoria Mill, Sabden	
Date 01/07/2018 File 17140-CC-02 PROPOSED SW...	Designed by LS Checked by -	
Infrasoft	Network 2018.1	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	100	PIMP (%)	100
M5-60 (mm)	18.600	Add Flow / Climate Change (%)	0
Ratio R	0.252	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	18.000	0.060	300.0	0.102	4.00	0.0	0.600	[]	-1	Pipe/Conduit	
1.001	4.000	0.013	300.0	0.103	0.00	0.0	0.600	o	1600	Pipe/Conduit	
1.002	7.000	0.047	148.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL E (m)	I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	4.10	7.000	0.102	0.0	0.0	0.0	2.95	11784.1	13.8
1.001	50.00	4.13	6.940	0.205	0.0	0.0	0.0	2.57	5169.2	27.8
1.002	50.00	4.22	6.927	0.205	0.0	0.0	0.0	1.29	90.9	27.8

Conduit Sections for Storm

NOTE: Diameters less than 66 refer to section numbers of hydraulic conduits. These conduits are marked by the symbols:- [] box culvert, \ / open channel, oo dual pipe, ooo triple pipe, O egg.

Section numbers < 0 are taken from user conduit table

Section Number	Conduit Type	Major Dimn. (mm)	Minor Dimn. (mm)	Side Slope (Deg)	Corner Splay (mm)	4*Hyd Radius (m)	XSect Area (m ²)
-1	[]	2000	2000	90.0		2.000	4.000

Paul Waite Associates		Page 2
Summit House Riparian Way Keighley BD20 7BW	17140-CC-02 Prop. Discharge Rate - North Former Victoria Mill, Sabden	
Date 01/07/2018 File 17140-CC-02 PROPOSED SW...	Designed by LS Checked by -	
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Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall C. Level Name (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
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1.002	10.000	6.880	0.000	0	0
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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.600	Storm Duration (mins)	30
Ratio R	0.252		

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Summit House Riparian Way Keighley BD20 7BW	17140-CC-02 Prop. Discharge Rate - North Former Victoria Mill, Sabden	
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Online Controls for Storm

Crown Vortex Valve® Manhole: 3, DS/PN: 1.002, Volume (m³): 19.5

Design Head (m) 3.000 Vortex Valve® Type R1 SW Only Invert Level (m) 6.927
Design Flow (l/s) 5.8 Diameter (mm) 75

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.1	1.200	3.6	3.000	5.8	7.000	8.8
0.200	1.5	1.400	3.9	3.500	6.2	7.500	9.1
0.300	1.8	1.600	4.2	4.000	6.7	8.000	9.4
0.400	2.1	1.800	4.5	4.500	7.1	8.500	9.7
0.500	2.4	2.000	4.7	5.000	7.4	9.000	10.0
0.600	2.6	2.200	4.9	5.500	7.8	9.500	10.3
0.800	3.0	2.400	5.2	6.000	8.1		
1.000	3.3	2.600	5.4	6.500	8.5		

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Summit House Riparian Way Keighley BD20 7BW	17140-CC-02 Prop. Discharge Rate - North Former Victoria Mill, Sabden	
Date 01/07/2018 File 17140-CC-02 PROPOSED SW...	Designed by LS Checked by -	
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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
 Hot Start Level (mm) 0 Inlet Coefficient 0.800
 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
 Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Storage Structures 0
 Number of Online Controls 1 Number of Time/Area Diagrams 0
 Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.250
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 18.600 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 10.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status ON
 DVD Status ON
 Inertia Status ON

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 1, 2, 30, 100
 Climate Change (%) 0, 0, 0, 40

									Water
PN	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Level
	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	(m)
1.000	1	360 Winter	1	+0%					7.480
1.001	2	360 Winter	1	+0%	100/60 Summer				7.480
1.002	3	360 Winter	1	+0%	1/15 Summer				7.482

		Surcharged	Flooded	Pipe				
	US/MH	Depth	Volume	Flow /	Overflow	Flow		Level
PN	Name	(m)	(m³)	Cap.	(l/s)	(l/s)	Status	Exceeded
1.000	1	-1.520	0.000	0.00		2.5	OK*	
1.001	2	-1.060	0.000	0.01		42.9	OK*	
1.002	3	0.255	0.000	0.04		2.5	SURCHARGED	

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Summit House Riparian Way Keighley BD20 7BW	17140-CC-02 Prop. Discharge Rate - North Former Victoria Mill, Sabden	
Date 01/07/2018 File 17140-CC-02 PROPOSED SW...	Designed by LS Checked by -	
Infrasoft	Network 2018.1	

2 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
 Hot Start Level (mm) 0 Inlet Coefficient 0.800
 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
 Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Storage Structures 0
 Number of Online Controls 1 Number of Time/Area Diagrams 0
 Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.250
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 18.600 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 10.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status ON
 DVD Status ON
 Inertia Status ON

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 1, 2, 30, 100
 Climate Change (%) 0, 0, 0, 40

									Water
PN	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Level
	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	(m)
1.000	1	240 Winter	2	+0%					7.607
1.001	2	240 Winter	2	+0%	100/60 Summer				7.607
1.002	3	240 Winter	2	+0%	1/15 Summer				7.605

		Surcharged	Flooded	Pipe				
	US/MH	Depth	Volume	Flow /	Overflow	Flow		Level
PN	Name	(m)	(m³)	Cap.	(l/s)	(l/s)	Status	Exceeded
1.000	1	-1.393	0.000	0.00		3.7	OK*	
1.001	2	-0.933	0.000	0.00		8.7	OK*	
1.002	3	0.379	0.000	0.04		2.7	SURCHARGED	

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Summit House Riparian Way Keighley BD20 7BW	17140-CC-02 Prop. Discharge Rate - North Former Victoria Mill, Sabden	
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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
 Hot Start Level (mm) 0 Inlet Coefficient 0.800
 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
 Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Storage Structures 0
 Number of Online Controls 1 Number of Time/Area Diagrams 0
 Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.250
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 18.600 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 10.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status ON
 DVD Status ON
 Inertia Status ON

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 1, 2, 30, 100
 Climate Change (%) 0, 0, 0, 40

									Water
PN	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Level
	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	(m)
1.000	1	240 Winter	30	+0%					8.140
1.001	2	240 Winter	30	+0%	100/60 Summer				8.140
1.002	3	240 Winter	30	+0%	1/15 Summer				8.140

		Surcharged	Flooded	Pipe				
	US/MH	Depth	Volume	Flow /	Overflow	Flow		Level
PN	Name	(m)	(m³)	Cap.	(l/s)	(l/s)	Status	Exceeded
1.000	1	-0.860	0.000	0.00		6.8	OK*	
1.001	2	-0.400	0.000	0.00		9.2	OK*	
1.002	3	0.913	0.000	0.06		3.7	SURCHARGED	

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Summit House Riparian Way Keighley BD20 7BW	17140-CC-02 Prop. Discharge Rate - North Former Victoria Mill, Sabden	
Date 01/07/2018 File 17140-CC-02 PROPOSED SW...	Designed by LS Checked by -	
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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
 Hot Start Level (mm) 0 Inlet Coefficient 0.800
 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
 Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Storage Structures 0
 Number of Online Controls 1 Number of Time/Area Diagrams 0
 Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.250
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 18.600 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 10.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status ON
 DVD Status ON
 Inertia Status ON

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 1, 2, 30, 100
 Climate Change (%) 0, 0, 0, 40

									Water
PN	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Level
	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	(m)
1.000	1 480	Summer	100	+40%					9.000
1.001	2 480	Summer	100	+40%	100/60 Summer				8.940
1.002	3 360	Winter	100	+40%	1/15 Summer				9.955

		Surcharged Flooded				Pipe		
	US/MH	Depth	Volume	Flow /	Overflow	Flow		Level
PN	Name	(m)	(m ³)	Cap.	(l/s)	(l/s)	Status	Exceeded
1.000	1	0.000	0.000	0.00		10.5	SURCHARGED*	
1.001	2	0.400	0.000	0.00		8.8	SURCHARGED*	
1.002	3	2.729	0.000	0.09		5.8	SURCHARGED	

Paul Waite Associates		Page 1
Summit House Riparian Way Keighley BD20 7BW	17140-CC-02 Prop. Discharge Volume - North Former Victoria Mill, Sabden	
Date 01/07/2018 File 17140-CC-02 PROPOSED SW...	Designed by LS Checked by -	
Infrasoft	Network 2018.1	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	100	PIMP (%)	100
M5-60 (mm)	18.600	Add Flow / Climate Change (%)	0
Ratio R	0.252	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	18.000	0.060	300.0	0.102	4.00	0.0	0.600	[]	-1	Pipe/Conduit	
1.001	4.000	0.013	300.0	0.103	0.00	0.0	0.600	o	1600	Pipe/Conduit	
1.002	7.000	0.047	148.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL E (m)	I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	4.10	7.000	0.102	0.0	0.0	0.0	2.95	11784.1	13.8
1.001	50.00	4.13	6.940	0.205	0.0	0.0	0.0	2.57	5169.2	27.8
1.002	50.00	4.22	6.927	0.205	0.0	0.0	0.0	1.29	90.9	27.8

Conduit Sections for Storm

NOTE: Diameters less than 66 refer to section numbers of hydraulic conduits. These conduits are marked by the symbols:- [] box culvert, \ / open channel, oo dual pipe, ooo triple pipe, O egg.

Section numbers < 0 are taken from user conduit table

Section Number	Conduit Type	Major Dimn. (mm)	Minor Dimn. (mm)	Side Slope (Deg)	Corner Splay (mm)	4*Hyd Radius (m)	XSect Area (m ²)
-1	[]	2000	2000	90.0		2.000	4.000

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Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall C. Level Name (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.002	10.000	6.880	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1
Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.600	Storm Duration (mins)	30
Ratio R	0.252		

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Online Controls for Storm

Crown Vortex Valve® Manhole: 3, DS/PN: 1.002, Volume (m³): 19.5

Design Head (m) 3.000 Vortex Valve® Type R1 SW Only Invert Level (m) 6.927
Design Flow (l/s) 5.8 Diameter (mm) 75

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.1	1.200	3.6	3.000	5.8	7.000	8.8
0.200	1.5	1.400	3.9	3.500	6.2	7.500	9.1
0.300	1.8	1.600	4.2	4.000	6.7	8.000	9.4
0.400	2.1	1.800	4.5	4.500	7.1	8.500	9.7
0.500	2.4	2.000	4.7	5.000	7.4	9.000	10.0
0.600	2.6	2.200	4.9	5.500	7.8	9.500	10.3
0.800	3.0	2.400	5.2	6.000	8.1		
1.000	3.3	2.600	5.4	6.500	8.5		

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Summit House Riparian Way Keighley BD20 7BW	17140-CC-02 Prop. Discharge Volume - North Former Victoria Mill, Sabden	
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100 year Return Period Summary of Critical Results by Maximum Discharge
Volume (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
 Hot Start Level (mm) 0 Inlet Coefficient 0.800
 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
 Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Storage Structures 0
 Number of Online Controls 1 Number of Time/Area Diagrams 0
 Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.250
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 18.600 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 10.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status ON
 DVD Status ON
 Inertia Status ON

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 240, 360
 Return Period(s) (years) 100
 Climate Change (%) 40

	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Water
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	Level
									(m)
1.000	1	360 Winter	100	+40%					9.000
1.001	2	360 Winter	100	+40%	100/60 Summer				8.940
1.002	3	360 Winter	100	+40%	100/15 Summer				9.955

	US/MH	Depth	Volume	Flow /	Overflow	Pipe		Level
PN	Name	(m)	(m ³)	Cap.	(l/s)	Flow	Status	Exceeded
						(l/s)		
1.000	1	0.000	0.000	0.00		9.3	SURCHARGED*	
1.001	2	0.400	0.000	0.00		9.8	SURCHARGED*	
1.002	3	2.729	0.000	0.09		5.8	SURCHARGED	

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	100	PIMP (%)	100
M5-60 (mm)	18.600	Add Flow / Climate Change (%)	0
Ratio R	0.252	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	15.000	0.050	300.0	0.136	4.00	0.0	0.600	[]	-1	Pipe/Conduit	
1.001	15.000	0.050	300.0	0.136	0.00	0.0	0.600	[]	-1	Pipe/Conduit	
1.002	56.000	0.187	299.5	0.137	0.00	0.0	0.600	[]	-1	Pipe/Conduit	
1.003	14.000	0.047	300.0	0.137	0.00	0.0	0.600	[]	-1	Pipe/Conduit	
1.004	4.000	0.013	307.7	0.000	0.00	0.0	0.600	o	1500	Pipe/Conduit	
1.005	3.600	0.017	211.8	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL E (m)	I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	4.08	7.000	0.136	0.0	0.0	0.0	2.95	11784.1	18.4
1.001	50.00	4.17	6.950	0.272	0.0	0.0	0.0	2.95	11784.1	36.8
1.002	50.00	4.49	6.900	0.409	0.0	0.0	0.0	2.95	11794.6	55.4
1.003	50.00	4.57	6.713	0.546	0.0	0.0	0.0	2.95	11784.1	73.9
1.004	50.00	4.59	6.666	0.546	0.0	0.0	0.0	2.44	4312.0	73.9
1.005	50.00	4.65	6.653	0.546	0.0	0.0	0.0	1.08	76.1	73.9

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Conduit Sections for Storm

NOTE: Diameters less than 66 refer to section numbers of hydraulic conduits. These conduits are marked by the symbols:- [] box culvert, \ / open channel, oo dual pipe, ooo triple pipe, O egg.

Section numbers < 0 are taken from user conduit table

Section Number	Conduit Type	Major Dimn. (mm)	Minor Dimn. (mm)	Side Slope (Deg)	Corner Splay (mm)	4*Hyd Radius (m)	XSect Area (m ²)
-1	[]	2000	2000	90.0		2.000	4.000

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.005		10.000	6.636	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.600	Storm Duration (mins)	30
Ratio R	0.252		

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Online Controls for Storm

Crown Vortex Valve® Manhole: 6, DS/PN: 1.005, Volume (m³): 20.1

Design Head (m) 3.000 Vortex Valve® Type R1 SW Only Invert Level (m) 6.653
Design Flow (l/s) 4.7 Diameter (mm) 68

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.0	1.200	3.0	3.000	4.7	7.000	7.2
0.200	1.2	1.400	3.2	3.500	5.1	7.500	7.5
0.300	1.5	1.600	3.5	4.000	5.5	8.000	7.7
0.400	1.7	1.800	3.7	4.500	5.8	8.500	8.0
0.500	1.9	2.000	3.9	5.000	6.1	9.000	8.2
0.600	2.1	2.200	4.1	5.500	6.4	9.500	8.4
0.800	2.4	2.400	4.2	6.000	6.7		
1.000	2.7	2.600	4.4	6.500	7.0		

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
 Hot Start Level (mm) 0 Inlet Coefficient 0.800
 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
 Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Storage Structures 0
 Number of Online Controls 1 Number of Time/Area Diagrams 0
 Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.250
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 18.600 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 50.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status ON
 DVD Status ON
 Inertia Status ON

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 1, 2, 30, 100
 Climate Change (%) 0, 0, 0, 40

										Water
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level	(m)
1.000	1	960 Winter	1	+0%						7.386
1.001	2	960 Winter	1	+0%						7.386
1.002	3	960 Winter	1	+0%						7.386
1.003	4	960 Winter	1	+0%						7.386
1.004	5	960 Winter	1	+0%	100/120 Summer					7.386
1.005	6	960 Winter	1	+0%	1/15 Summer					7.386

		Surcharged	Flooded				Pipe		
	US/MH	Depth	Volume	Flow /	Overflow	Flow		Level	
PN	Name	(m)	(m³)	Cap.	(l/s)	(l/s)	Status	Exceeded	
1.000	1	-1.614	0.000	0.00		1.9	OK*		
1.001	2	-1.564	0.000	0.00		3.6	OK*		
1.002	3	-1.514	0.000	0.00		4.7	OK*		
1.003	4	-1.327	0.000	0.00		5.7	OK*		
1.004	5	-0.780	0.000	0.00		3.1	OK*		
1.005	6	0.433	0.000	0.05		2.3	SURCHARGED		

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
 Hot Start Level (mm) 0 Inlet Coefficient 0.800
 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
 Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Storage Structures 0
 Number of Online Controls 1 Number of Time/Area Diagrams 0
 Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.250
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 18.600 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 50.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status ON
 DVD Status ON
 Inertia Status ON

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 1, 2, 30, 100
 Climate Change (%) 0, 0, 0, 40

									Water
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)
1.000	1	960 Winter	2	+0%					7.495
1.001	2	960 Winter	2	+0%					7.495
1.002	3	960 Winter	2	+0%					7.495
1.003	4	960 Winter	2	+0%					7.495
1.004	5	960 Winter	2	+0%	100/120 Summer				7.495
1.005	6	960 Winter	2	+0%	1/15 Summer				7.495

		Surcharged	Flooded				Pipe	
	US/MH	Depth	Volume	Flow /	Overflow	Flow		Level
PN	Name	(m)	(m³)	Cap.	(l/s)	(l/s)	Status	Exceeded
1.000	1	-1.505	0.000	0.00		2.2	OK*	
1.001	2	-1.455	0.000	0.00		4.0	OK*	
1.002	3	-1.405	0.000	0.00		5.2	OK*	
1.003	4	-1.218	0.000	0.00		5.8	OK*	
1.004	5	-0.671	0.000	0.00		3.2	OK*	
1.005	6	0.543	0.000	0.05		2.5	SURCHARGED	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
 Hot Start Level (mm) 0 Inlet Coefficient 0.800
 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
 Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Storage Structures 0
 Number of Online Controls 1 Number of Time/Area Diagrams 0
 Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.250
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 18.600 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 50.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status ON
 DVD Status ON
 Inertia Status ON

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 1, 2, 30, 100
 Climate Change (%) 0, 0, 0, 40

US/MH		Return Climate		First (X)	First (Y)	First (Z)	Overflow	Water
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Level
							Act.	(m)
1.000	1	1440 Winter	30	+0%				8.008
1.001	2	1440 Winter	30	+0%				8.008
1.002	3	1440 Winter	30	+0%				8.008
1.003	4	1440 Winter	30	+0%				8.009
1.004	5	1440 Winter	30	+0%	100/120 Summer			8.008
1.005	6	1440 Winter	30	+0%	1/15 Summer			8.009

US/MH		Surcharged Flooded		Pipe		Level	
PN	Name	Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
							Exceeded
1.000	1	-0.992	0.000	0.00		2.8	OK*
1.001	2	-0.942	0.000	0.00		4.6	OK*
1.002	3	-0.892	0.000	0.00		6.1	OK*
1.003	4	-0.704	0.000	0.00		8.8	OK*
1.004	5	-0.158	0.000	0.00		4.7	OK*
1.005	6	1.056	0.000	0.06		3.2	SURCHARGED

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
 Hot Start Level (mm) 0 Inlet Coefficient 0.800
 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
 Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Storage Structures 0
 Number of Online Controls 1 Number of Time/Area Diagrams 0
 Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.250
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 18.600 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 50.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status ON
 DVD Status ON
 Inertia Status ON

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 1, 2, 30, 100
 Climate Change (%) 0, 0, 0, 40

										Water
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.		Level (m)
1.000	1	960 Winter	100	+40%						9.000
1.001	2	960 Winter	100	+40%						8.950
1.002	3	480 Winter	100	+40%						8.900
1.003	4	1440 Winter	100	+40%						8.713
1.004	5	1440 Winter	100	+40%	100/120 Summer					8.666
1.005	6	1440 Winter	100	+40%	1/15 Summer					9.622

		Surcharged Flooded				Pipe			
PN	US/MH Name	Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)	Status	Level Exceeded	
1.000	1	0.000	0.000	0.00		6.4	SURCHARGED*		
1.001	2	0.000	0.000	0.00		17.5	SURCHARGED*		
1.002	3	0.000	0.000	0.00		20.2	SURCHARGED*		
1.003	4	0.000	0.000	0.00		17.0	SURCHARGED*		
1.004	5	0.500	0.000	0.00		13.2	SURCHARGED*		
1.005	6	2.669	0.000	0.09		4.7	SURCHARGED		

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	100	PIMP (%)	100
M5-60 (mm)	18.600	Add Flow / Climate Change (%)	0
Ratio R	0.252	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	15.000	0.050	300.0	0.136	4.00	0.0	0.600	[]	-1	Pipe/Conduit	
1.001	15.000	0.050	300.0	0.136	0.00	0.0	0.600	[]	-1	Pipe/Conduit	
1.002	56.000	0.187	299.5	0.137	0.00	0.0	0.600	[]	-1	Pipe/Conduit	
1.003	14.000	0.047	300.0	0.137	0.00	0.0	0.600	[]	-1	Pipe/Conduit	
1.004	4.000	0.013	307.7	0.000	0.00	0.0	0.600	o	1500	Pipe/Conduit	
1.005	3.600	0.017	211.8	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL E (m)	I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	4.08	7.000	0.136	0.0	0.0	0.0	2.95	11784.1	18.4
1.001	50.00	4.17	6.950	0.272	0.0	0.0	0.0	2.95	11784.1	36.8
1.002	50.00	4.49	6.900	0.409	0.0	0.0	0.0	2.95	11794.6	55.4
1.003	50.00	4.57	6.713	0.546	0.0	0.0	0.0	2.95	11784.1	73.9
1.004	50.00	4.59	6.666	0.546	0.0	0.0	0.0	2.44	4312.0	73.9
1.005	50.00	4.65	6.653	0.546	0.0	0.0	0.0	1.08	76.1	73.9

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Conduit Sections for Storm

NOTE: Diameters less than 66 refer to section numbers of hydraulic conduits. These conduits are marked by the symbols:- [] box culvert, \ / open channel, oo dual pipe, ooo triple pipe, O egg.

Section numbers < 0 are taken from user conduit table

Section Number	Conduit Type	Major Dimn. (mm)	Minor Dimn. (mm)	Side Slope (Deg)	Corner Splay (mm)	4*Hyd Radius (m)	XSect Area (m ²)
-1	[]	2000	2000	90.0		2.000	4.000

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.005		10.000	6.636	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.600	Storm Duration (mins)	30
Ratio R	0.252		

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Online Controls for Storm

Crown Vortex Valve® Manhole: 6, DS/PN: 1.005, Volume (m³): 20.1

Design Head (m) 3.000 Vortex Valve® Type R1 SW Only Invert Level (m) 6.653
Design Flow (l/s) 4.7 Diameter (mm) 68

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.0	1.200	3.0	3.000	4.7	7.000	7.2
0.200	1.2	1.400	3.2	3.500	5.1	7.500	7.5
0.300	1.5	1.600	3.5	4.000	5.5	8.000	7.7
0.400	1.7	1.800	3.7	4.500	5.8	8.500	8.0
0.500	1.9	2.000	3.9	5.000	6.1	9.000	8.2
0.600	2.1	2.200	4.1	5.500	6.4	9.500	8.4
0.800	2.4	2.400	4.2	6.000	6.7		
1.000	2.7	2.600	4.4	6.500	7.0		

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100 year Return Period Summary of Critical Results by Maximum Discharge
Volume (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
 Hot Start Level (mm) 0 Inlet Coefficient 0.800
 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
 Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Storage Structures 0
 Number of Online Controls 1 Number of Time/Area Diagrams 0
 Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.250
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 18.600 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 50.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status ON
 DVD Status ON
 Inertia Status ON

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 240, 360
 Return Period(s) (years) 100
 Climate Change (%) 40

										Water
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.		Level (m)
1.000	1	360 Winter	100	+40%						8.791
1.001	2	360 Winter	100	+40%						8.791
1.002	3	360 Winter	100	+40%						8.791
1.003	4	360 Winter	100	+40%						8.713
1.004	5	360 Winter	100	+40%	100/120 Summer					8.666
1.005	6	360 Winter	100	+40%	100/15 Summer					8.792

		<u>Surcharged Flooded</u>				<u>Pipe</u>		
PN	US/MH Name	Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	1	-0.209	0.000	0.00		12.7	OK*	
1.001	2	-0.159	0.000	0.00		18.5	OK*	
1.002	3	-0.109	0.000	0.00		24.4	OK*	
1.003	4	0.000	0.000	0.00		11.5	SURCHARGED*	
1.004	5	0.500	0.000	0.00		6.7	SURCHARGED*	
1.005	6	1.839	0.000	0.08		4.0	SURCHARGED	